

Evaluation of diagnostic value of serum level of Hepcidin, total Bilirubin and Neutrophil to Lymphocyte ratio in diagnosis of Pediatric complicated acute appendicitis

Abstract

Background: *In children, abdominal pain is one of the most important and significant issues. One of the most common causes of abdominal pain in children is acute appendicitis. The course of acute appendicitis is faster in children and has a higher chance of perforation and peritonitis than in adults.*

Aim: *Determining the diagnostic value of serum hepcidin and total bilirubin and neutrophil to lymphocyte ratio in the diagnosis of acute complicated appendicitis in children*

Methods and materials: *The present study was a cross-sectional study. The statistical population of the present study includes patients aged 6 to 16 years who underwent emergency appendectomy with a diagnosis of appendicitis. The sampling method was census in a period of 2 months from all patients between 6 and 16 years who underwent appendectomy. Laboratory parameters including hepcidin, total bilirubin and blood leukocyte levels were recorded in researcher-made checklists at the time of admission of these patients and after collection were analyzed by SPSSv22 statistical analysis software.*

Results: *Eighty seven 6-16 YO patients who underwent emergent appendectomy were enrolled in this study. Among the patients, 70 patients had inflamed appendix and 17 had not. From 70 appendicitis patients, 47 (67.1%) were male. According to our findings, average levels of hepcidin, total bilirubin and neutrophil to lymphocyte ratio was statistically higher in patients with inflamed appendix than the other group. Sensitivity and specificity of hepcidin was 53.3 & 90.9, bilirubin was 46.7 & 89.1 and neutrophil to lymphocyte ratio was 100 & 83.6 in differentiating complicated appendicitis from simple appendicitis.*

Conclusion: *Finally, it can be concluded from the findings of the present study that the combination of laboratory indicators of total bilirubin, hepcidin and neutrophil to lymphocyte ratio can be used as an indicator in the diagnosis of complicated appendicitis in children.*

Keywords: *Hepcidin, Bilirubin, Neutrophil, Lymphocyte, Appendicitis*